C L A I M S

1. A liquid transporting/processing device characterized by comprising:

a flow path which is provided on a substrate and in which a plurality of liquid drops move;

a plurality of electrodes which are applied with a voltage that is controlled to move the liquid drops in the flow path in a prescribed direction; and

an insulating layer that electrically insulates the liquid drops existing in the flow path, from at least some of the electrodes,

the device having the function of suppressing contamination of the liquid drops passing through the flow path.

2. The liquid transporting/processing device according to claim 1, characterized in that the function of suppressing contamination is a function of washing the flow path.

3. The liquid transporting/processing device according to claim 2, characterized in that the function of washing the flow path is a function of moving washing solution along the flow path, by utilizing the voltage applied to the electrodes, thereby washing the flow path.

4. The liquid transporting/processing device according to claim 3, characterized in that the function of moving washing solution, thereby washing the flow path, is a function of transporting the washing solution along

the flow path, either in one direction or back and forth, thereby washing the flow path.

5. The liquid transporting/processing device according to claim 3, characterized in that the function of washing the flow path is a function of washing the flow path, by interposing at least one drop of washing solution between the liquid drops.

6. The liquid transporting/processing device according to claim 1, characterized in that the function of suppressing contamination is a function of replacing a film made of water-repellant insulating material and firmly adhered to a surface of the flow path.

7. The liquid transporting/processing device according to claim 6, characterized in that the flow path is a flow path of opened type.

8. The liquid transporting/processing device according to claim 1, characterized in that the electrodes are constituted by:

a plurality of first electrodes arranged parallel to the liquid drops in the flow path through the insulating layer; and

a second electrode arranged to the liquid drops in the flow path through the insulating layer.

9. The liquid transporting/processing device according to claim 8, characterized in that the second electrode is on a substrate on which the first electrodes are arranged, and is arranged between some of the first electrodes arranged parallel or in a gap made in at least

one of the first electrodes.

10. The liquid transporting/processing device according to claim 8, characterized in that the first electrodes are arranged parallel, forming a two-dimensional array.

11. The liquid transporting/processing device according to claim 8, characterized in that the second electrode is constituted by a plurality of electrodes that are arranged parallel.

12. The liquid transporting/processing device according to claim 11, characterized in that the first electrodes extend parallel, intersecting with the second electrodes that extend parallel.

13. The liquid transporting/processing device according to claim 8, characterized by further comprising control means for controlling, respectively, voltages applied to the first electrodes arranged parallel to the second electrode.

14. The liquid transporting/processing device according to claim 1, characterized in that a water-repellant layer is provided on the insulating layer provided between the liquid drops and the electrodes and contacts the liquid drops.

15. A liquid transporting/processing method for use in a liquid transporting/processing device comprising a flow path which is provided on a substrate and in which a plurality of liquid drops move, a plurality of electrodes which are applied with a voltage that is controlled to move

the liquid drops in the flow path in a prescribed direction, and an insulating layer that electrically insulates the liquid drops existing in the flow path, from at least some of the electrodes, the method comprising:

a step of moving at least one of the liquid drops by utilizing the voltage applied to the electrodes; and

a step of suppressing contamination of some of the liquid drops, caused by the remaining liquid drops that have moved in the flow path in the prescribed direction.

16. The liquid transporting/processing method according to claim 15, characterized in that the step of suppressing contamination includes washing of the flow path.

17. The liquid transporting/processing method according to claim 16, characterized in that the washing of the flow path is achieved by moving washing solution along the flow path, by utilizing the voltage applied to the electrodes.

18. The liquid transporting/processing method according to claim 17, characterized in that the washing of the flow path is achieved by moving washing solution along the flow path, either in one direction or back and forth, by utilizing the voltage applied to the electrodes.

19. The liquid transporting/processing method according to claim 17, characterized in that the washing of the flow path is achieved by interposing at least one drop of washing solution between the liquid drops.

20. The liquid transporting/processing method

according to claim 15, characterized in that the step of suppressing contamination includes replacing a film made of water-repellant insulating material and firmly adhered to a surface of the flow path.